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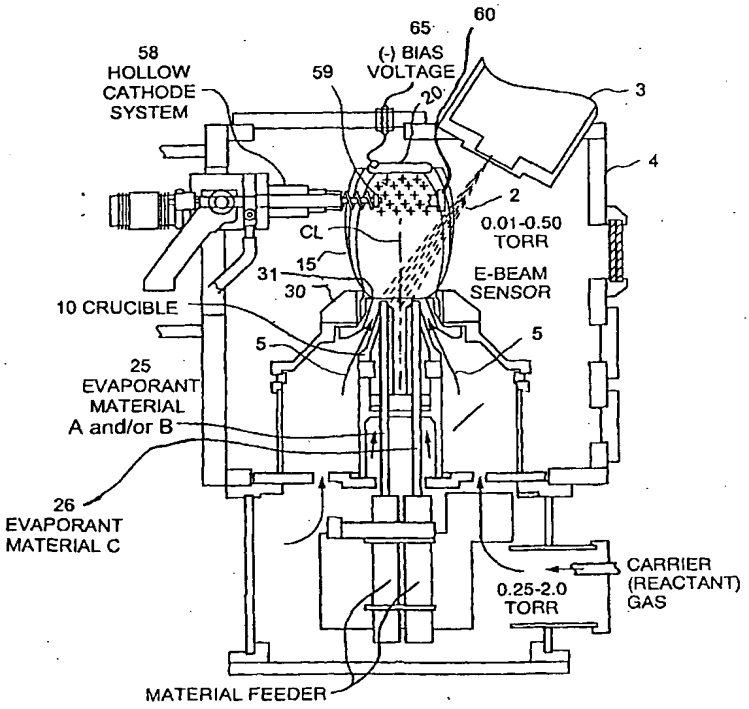
(54) Title: METHOD FOR APPLICATION OF A THERMAL BARRIER COATING AND RESULTANT STRUCTURE THEREOF



(57) Abstract: Provided herein are methods and apparatuses, and resulting structures, for depositing ceramic coatings with preferred coating density, morphology and adherence for applications such as thermal protection of internally cooled components. Such components are found in, but not limited thereto, the hot sections of gas turbine and diesel engines and in turbo machinery. These coatings require a low thermal conductivity in the through thickness of the coating, high in-plane elastic compliance, high erosion and foreign object damage resistance and resistance to hot corrosion. The methods and apparatuses discussed herein provide, among other things, how to manipulate the process conditions in EB-DVD systems to deposit high quality, highly efficient TBC top coats as well as how to deposit high quality TBC top coats onto positions that are in the line-of-sight, as well as non-line of sight, of the vapor source.

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